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09/519,271	03/07/2000	Eric Henderson		9700

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ZHOU, SHUBO

ART UNIT	PAPER NUMBER
1631	7/27

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Please find below and/or attached an Office communication concerning this application or proceeding.

Application No.

09/519,271

Applicant(s)

HENDERSON ET AL.

Examiner

Shubo "Joe" Zhou

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Office Action Summary*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --***Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will by statute cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 14 August 2001.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-40 is/are pending in the application.

4a) Of the above claim(s) 8 and 19-31 is/are withdrawn from consideration.

5) Claim(s) 32-39 is/are allowed.

6) Claim(s) 1-7,9-18 and 40 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>8</u>	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Applicant's amendment and request for reconsideration in Paper #7, filed on 8/14/01, is acknowledged and the amendments entered.

Claims 1-40 are currently pending, but only claims 1-7, 9-18, and 32-40 are under consideration.

As set forth in the previous Office action mailed 1/11/01, this application contains claims directed to patentably distinct species of the claimed invention, and applicants elected, in Paper #4 filed 2/20/01, the species of "a peptide, restriction endonuclease or a transcription factor" from claim 7 and the species of "biotin-avidin complex" from claim 16. Currently, claims 1-6, 9-15, 17-18, 32-40 are generic.

Claim 8 has been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

Applicant is advised that upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Applicant's arguments in response to the previous Office Action mailed 5/9/01 have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous Office action are hereby withdrawn. The following rejections and/or

objections are either reiterated from the previous Office action(s) or newly added, and constitute the complete set presently being applied to the instant application.

This application contains claims 19-31, drawn to an invention nonelected without traverse in Paper No. 4, filed 2/20/01. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections-35 USC § 112

The rejections of claims 5, 7, 9-10, and 16-18 under 35 U.S.C. 112, second paragraph in the previous Office action have been withdrawn in light of applicants' amendments to the claims. See pages 4-5 of Paper #7.

Claim Rejections-35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(b) that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless . . .

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States

Claims 1-4, 7, 9, and 11-14, and the newly added claim 40 are rejected under 35 U.S.C. § 102(b) as being anticipated by Pfannschmidt et al. (Nucleic Acids Research, 1996, Vol. 24, No. 9, pages 1702-1709).

Pfannschmidt et al. disclose a process of analyzing a nucleic acid sample comprising tagging one or more sequence specific sites of the nucleic acid sample with a peptide (see Fig. 6A for multiple sites tagging); scanning the nucleic acid sample with a scanning force

microscope (a NonoScope III multimode SFM by Digital Instruments, Santa Barbara, CA, which is known to artisans in the field to be the same as atomic force microscope, which, in turn, is a form of scanning probe microscope); and analyzing the results of the scan of the nucleic acid sample (see page 1703-4, MATERIALS AND METHODS, and page 1702, ABSTRACT, especially note the phrase "protein tags" in the ABSTRACT). In this process, oligonucleotides-tagged with biotin bind to sample plasmid sequence-specifically and the biotin is bound by streptavidin-alkaline phosphatase, which is peptide; thus the nucleic acid sample is tagged by a peptide sequence-specifically (see page 1703-4, MATERIALS AND METHODS). In the process, Pfannschmidt et al. also disclose that the sample plasmid DNA is linearized with topoisomerase and *Alw*NI, which is known in the art to be a restriction endonuclease (see page 1703); that the linearized DNA sample is modified by being bound to oligonucleotides with biotin and the sample is deposited onto a deposition surface, a freshly cleaved mica surface), and the sample is dried with nitrogen (see page 1704, left column). The results of scanning force microscopy are shown in Figures 5 and 6 (see pages 1707-8).

The above is reiterated from the previous Office action and maintained for reasons of record.

Claim 1 is amended to recite a new limitation: "to determine the relative positions of the tagged sequence specific sites of the nucleic acid." Applicants argue that this amendment overcome the prior art of Pfannschmidt et al. because this limitation is not taught or suggested by the prior art reference. This is not found persuasive because Pfannschmidt et al. does teach analyzing the scan to determine the positions of the tagged sites. See pages 1707-708. For example, it is stated that the "binding site was located ~300 nm from one end of the linearized DNA." See page 1708, left column. This analysis applies also to newly added claim 40.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Pfannschmidt et al. tagged supercoiled DNA, but in the instant invention, linearized DNA is tagged) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

While claim 11 does indeed recite "linearizing the nucleic acid sample," the linearization step is not required before the labeling step.

Claim Rejections-35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-7, 9, and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfannschmidt et al. (Nucleic Acids Research, 1996, Vol. 24, No. 9, pages 1702-1709) in view of Kajimura (US patent #: 5,760,300, Date of Patent: June 2, 1998).

This rejection is reiterated from the previous Office action and maintained for reasons of record.

Applicants' argument is on the ground that since the amendment to claim 1 overcomes the rejection under 35 U.S.C. 102 over prior art reference Pfannschmidt et al., the rejection under 35 U.S.C. 103 has been overcome. This is not deemed persuasive because the amended claim 1 still anticipated by Pfannschmidt et al. for reasons as set forth above.

Claims 1-4, 7, and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfannschmidt et al. (Nucleic Acids Research, 1996, Vol. 24, No. 9, pages 1702-1709) in view of Coles (US patent #: 5,314,829, Date of Patent: May 24, 1994).

This rejection is reiterated from the previous Office action and maintained for reasons of record.

Applicants' argument is on the ground that since the amendment to claim 1 overcomes the rejection under 35 U.S.C. 102 over prior art reference Pfannschmidt et al., the rejection under 35 U.S.C. 103 has been overcome. This is not deemed persuasive because the amended claim 1 still anticipated by Pfannschmidt et al. for reasons as set forth above.

Further, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., barcode used as a graphical representation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Allowance

Newly added claims 32-39 are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703) 308-4242 or (703)305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to:

Shubo "Joe" Zhou, Ph.D., whose telephone number is (703) 605-1158. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (703) 308-4028.

Any inquiry of a general nature or relating to the status of this application should be directed to Patent Analyst Tina Plunkett whose telephone number is 703)-305-3524, or to the Technical Center receptionist whose telephone number is (703) 308-0196.

S. "Joe" Zhou, Ph.D.
Patent Examiner



John S. Brusca
JOHN S. BRUSCA, P.E.
PRIMARY EXAMINER